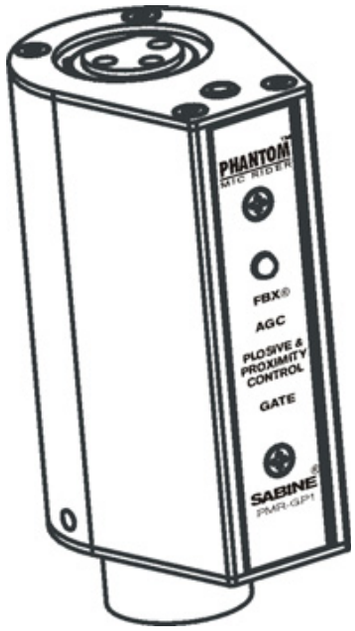
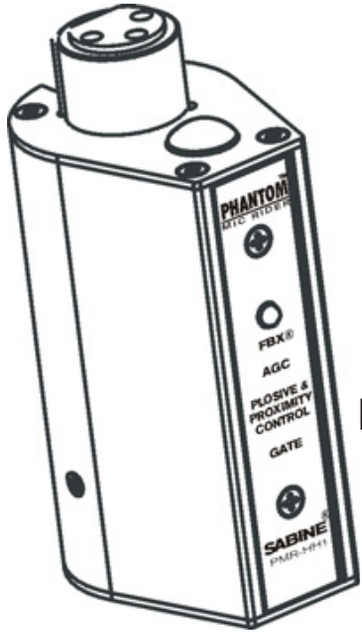


PMR-GP1



PMR-HH1

PHANTOM™ MIC RIDER

Operating Guide

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SABINE®
ADAPTIVE AUDIO

MADE IN USA
PATENT PENDING

SABINE®

ADAPTIVE AUDIO

Congratulations on getting your new Phantom Mic Rider!

This operating guide covers the use of both models of the Phantom. Follow the directions that apply to your model. For your convenience each section of this guide is marked as follows indicating which model is explained.

GP	PMR-GP1, for gooseneck & podium mics
HH	PMR-HH1, for handheld mics
GP+HH	Both models

The Phantom will improve the sound of your Podium, Gooseneck, or Handheld mics. Use the Phantom in these applications: schools, teleconferencing centers, houses of worship, meeting rooms, etc. The Phantom is *not* designed for vocal performance, recording, or broadcast applications.

Your box contains the following items:

GP

- One Phantom Mic Rider
- One IR Sensor cord with connector. Some models sold without this item.
- Eight metal clips in various sizes for attaching the IR Sensor cable to your gooseneck mic.
- Three plastic clips to attached the IR Sensor to the gooseneck and one for mounting it under a table or podium.
- One Allen wrench for adjusting the orientation of the Phantom.
- One small Phillips screwdriver for removing the security cover.
- One plastic programming Phantom Tool.
- This Operating Guide

HH

- One Phantom Mic Rider with built-in IR sensor
- One small Phillips screwdriver for removing the security cover.
- One plastic programming Phantom Tool.
- This Operating Guide

Features

Your new Sabine Phantom Mic Rider is the first phantom-powered DSP unit that provides these five powerful features:

- **FBX Feedback Exterminator**

  Increases gain before feedback
- **Automatic Gain Control**

  Helps maintain level as you move toward and away from the mic.
- **Proximity Effect Control**

  Reduces the excess bass sound as you get closer to the mic - maintains flat frequency response at all distances from the mic
- **Plosive Control**

  Reduces the loud pops and bursts from certain consonant sounds in speech
- **Infrared Gate**

  Mutes the mic when no one is in front of it using the included infrared heat sensor

Installing the Phantom GP

Above the table or podium

1. Mute the audio channel for the microphone you have selected to use with the Phantom. Remove the mic from the base or podium and set it aside.

2. Plug the Phantom (PMR-GP1) into the same base connector as the mic, as shown in Figure 1. The Phantom requires phantom power - when you plug in the Phantom you should see the LED turn green indicating phantom power is present.

3. Plug the microphone into the top of the Phantom. Plug in the IR Sensor and connect the cable to the gooseneck using the supplied clips, as shown in Figure 2. For best results install the sensor and cable with the gooseneck pointed straight up - this will give enough slack in the cable to account for any movement while in use.

4. If necessary you can change the orientation of the Phantom so it conforms to the connector on your mic base or podium. See the instructions on page 7.

5. Activate (un-mute) the mic and check for normal audio operation. Turn to the next page and begin the Setup Procedure.

FIGURE 1

Installing the Phantom

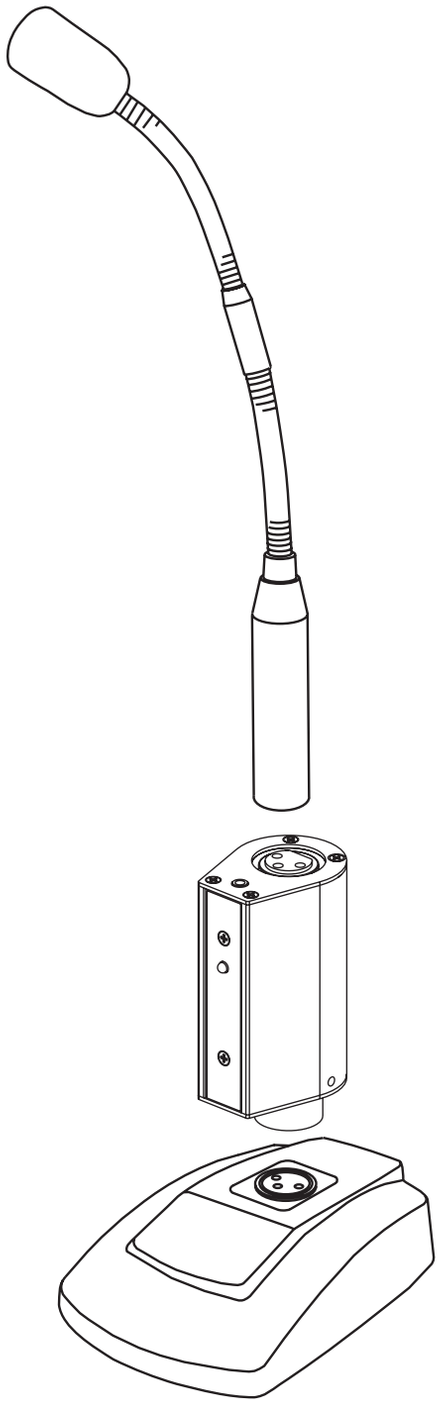
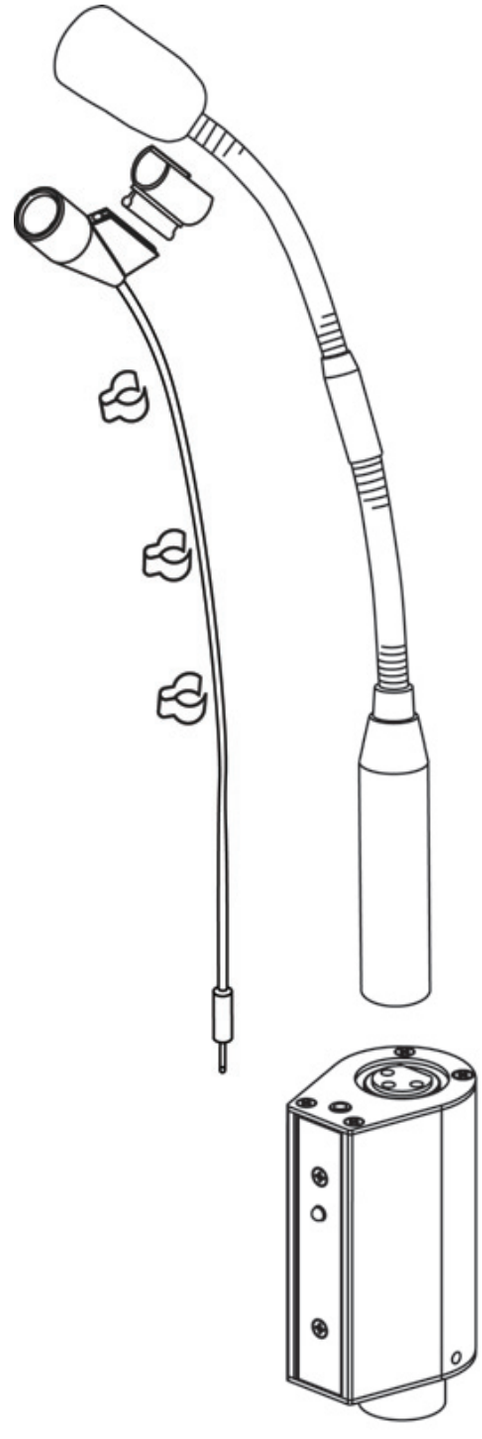


FIGURE 2

Connecting IR Sensor cable



Installing the Phantom GP

Changing the Orientation of the Phantom

If necessary you can change the orientation of the Phantom so it conforms to the connector on your mic base or podium, as shown in Figure 3.

1. Use the included Allen wrench and loosen the set screws as shown in Figure 3.

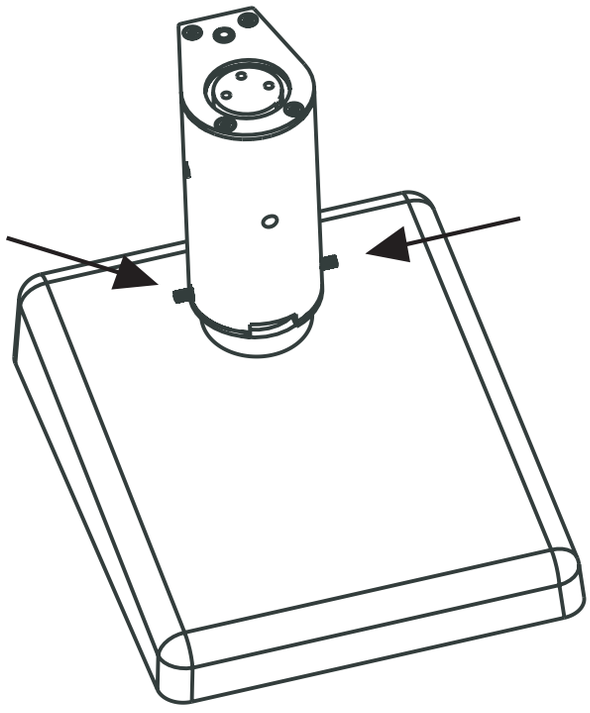
2. Turn the body of the Phantom one half turn clockwise – **no more!**

3. Tighten the set screws on both sides of the Phantom case and be sure they seat into the connector - just like they did originally. Continue installing as shown in Step 3 on page 6.

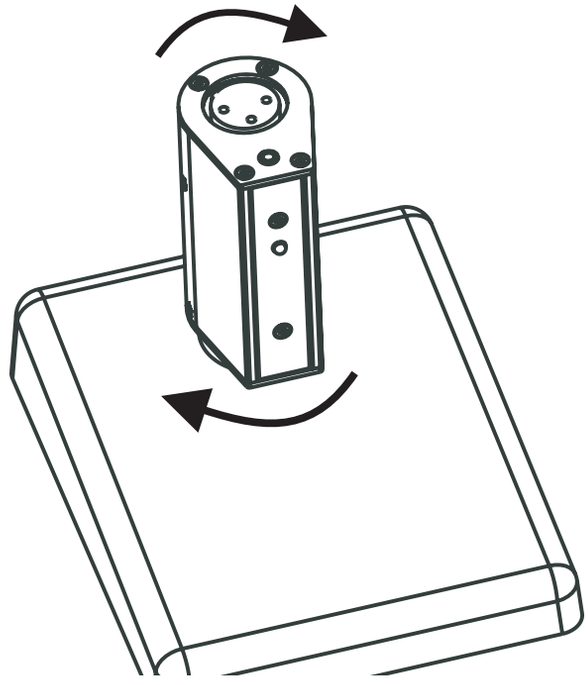
Installing the Phantom

Changing the Orientation of the Phantom

FIGURE 3



If the Phantom mounts like this, then loosen the Allen screws as described on the previous page.



Turn the Phantom **no more than** 1/2 half turn clockwise. Tighten the screws and the Phantom will be properly oriented.

Installing the Phantom GP

Below the table or podium

(Refer to Figure 4 on next page)

1. Mute the audio channel for the installed microphone you have selected to use with the Phantom. Working below the podium or table, remove audio cable from the mic.

2. Mount the Phantom below the table using Velcro or tie wraps; plug in the IR sensor cable and run that out to the front edge of the table or podium, as shown in Figure 4. Make sure the sensor is pointed toward the area where people stand or sit to use the microphone.

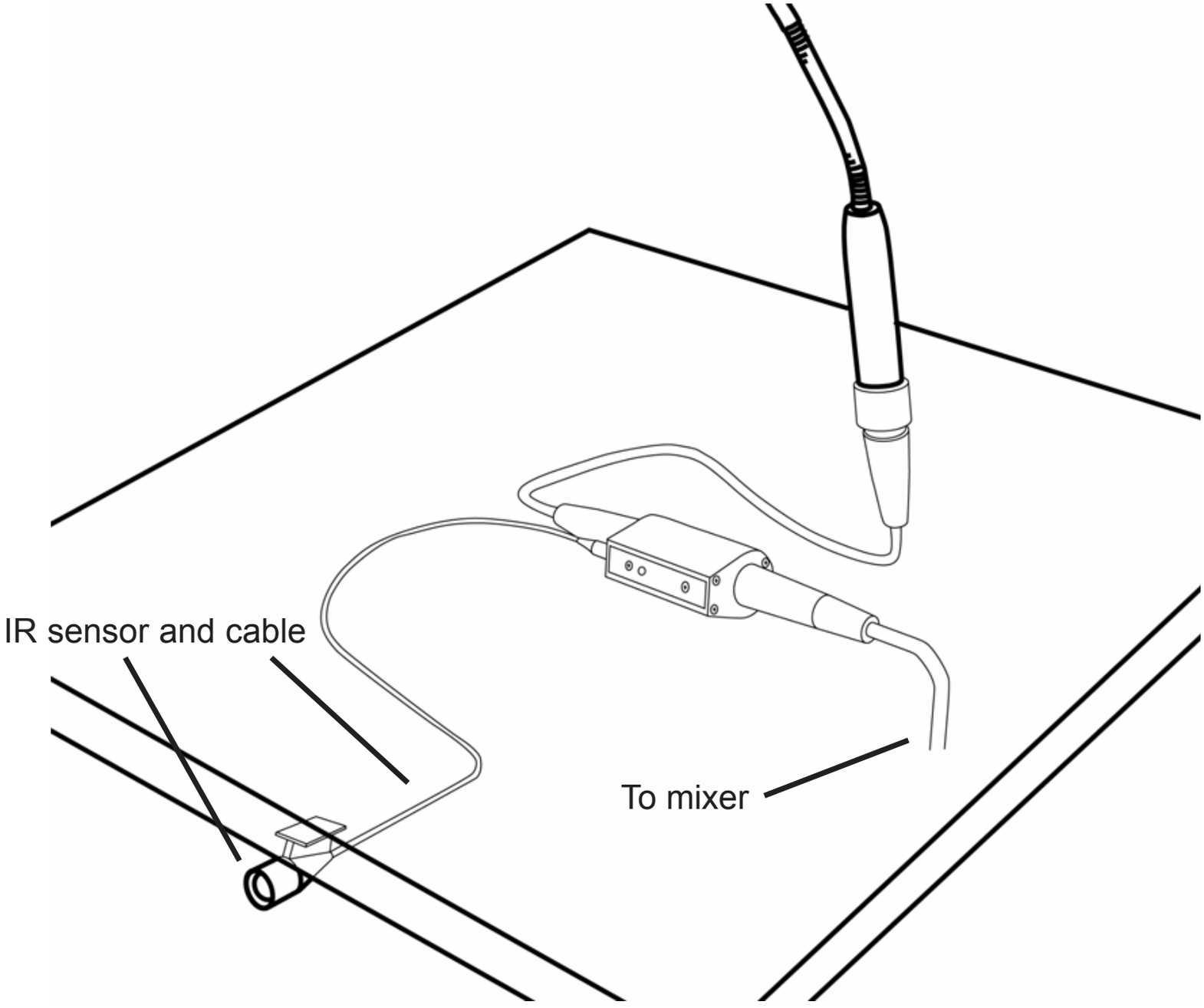
3. Take the cable that was connected to your mic and connect it to the output (male XLR) of the Phantom. Using another audio cable (a short one is best), connect the input of the Phantom (female XLR) to your installed microphone.

4. Activate (un-mute) the mic and check for normal audio operation. Turn to page 14 and begin the Setup Procedure.

Installing the Phantom

Below the table or podium

FIGURE 4



Installing the Phantom HH

Handheld microphones

(Refer to Figure 5 on next page)

1. Mute the audio channel for the handheld microphone you have selected to use with the Phantom. Remove the audio cable from the mic.

2. Plug the Phantom (PMR-HH1) into the microphone as shown at right, and reconnect the audio cable.

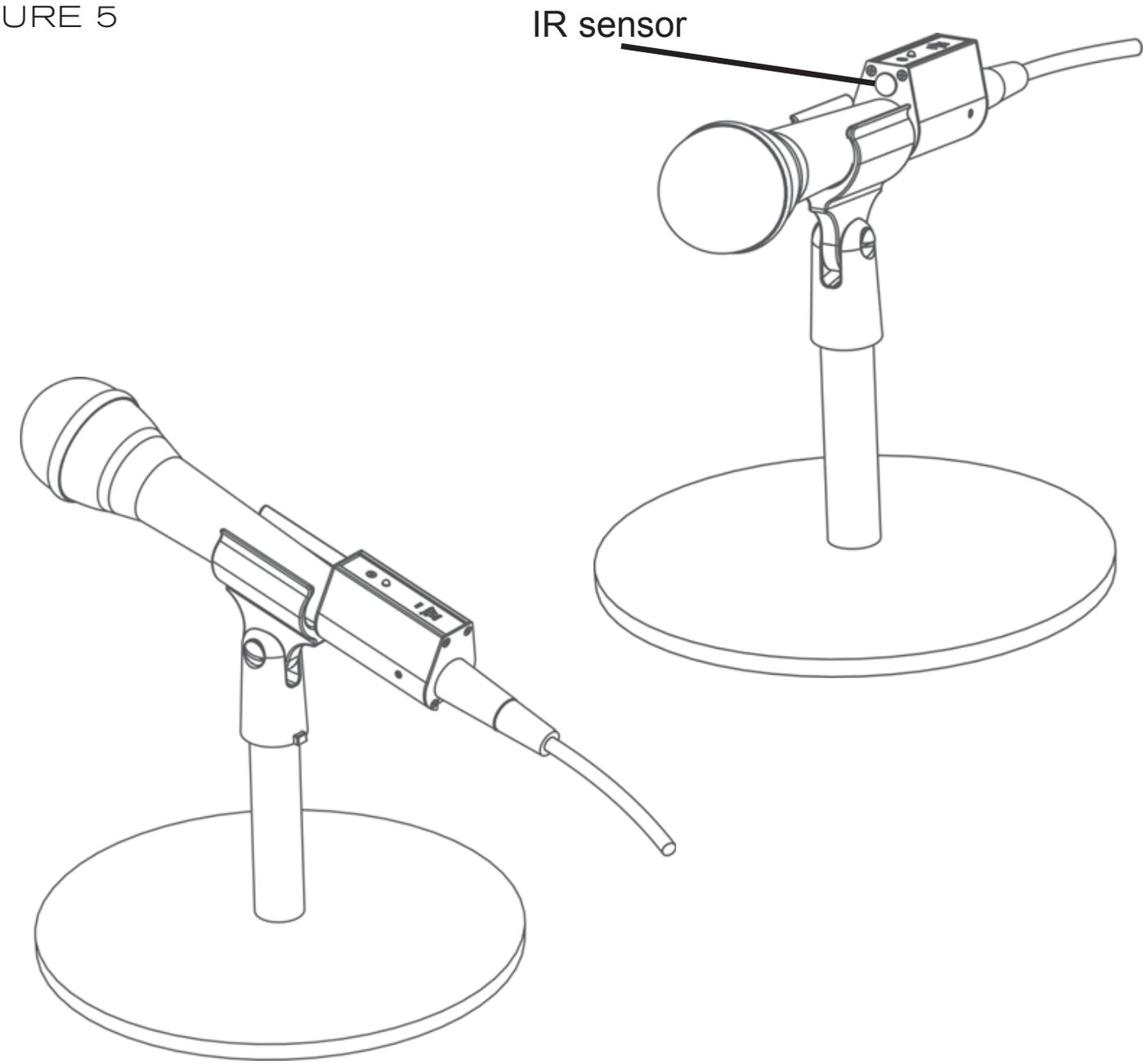
3. The Infrared sensor is built into this version of the Phantom. Orient the microphone in the holder so the IR sensor is on top, as shown at right.

4. Activate (un-mute) the mic and check for normal audio operation. Turn to page 14 and begin the Setup Procedure.

HH Installing the Phantom

Handheld microphones

FIGURE 5



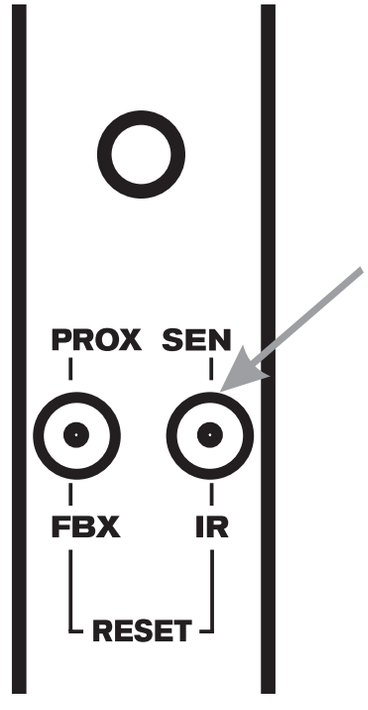
Operating the Phantom GP+HH

The Phantom's controls are hidden behind a security cover. Remove the cover using the included Phillips head screwdriver and hold on to those screws.

Two buttons and one LED are used to program your Phantom Processor. The factory default settings will work well for almost any situation, and you can adjust them to suit your needs using the provided Phantom Tool.

Button conventions:

Press a button one time briefly and you will see the current setting for that function. Press the button briefly again within 10 seconds and you will cycle to the next setting. Continue tapping the button briefly and you will cycle through all the possible settings. When you get to your desired setting simply stop there and that setting is entered and saved. Your settings are always saved when the Phantom is powered down.



LED Indicator:

The two-color LED lights green when the Phantom is connected to phantom power. When programming the LED flashes red in groups of 1, 2, or 3 flashes to indicate the chosen setting. Once the LED stops flashing the value is set.

GP+HH Operating the Phantom

The Phantom is designed to be ready to go in a minute or two. First you will set the Phantom's microphone sensitivity to match your microphone, then your FBX Feedback Exterminator filters, and you can even make an adjustment to the Proximity Effect and Plosive controllers.

Match Microphone Sensitivity

1. Make sure your Phantom is installed as described in "Installing the Phantom" shown on pages 6 - 13.

2. Using the Phantom Tool press the **SEN** button momentarily and you will see the red LED flash. This indicates the current setting. Factory default setting (#2) is indicated by two quick flashes.

3. Refer to the Microphone Sensitivity chart on page 14 of this Operating Guide to find your microphone's specification for sensitivity and make a note of the Phantom setting for your mic.

3. Press the **SEN** button again and you can cycle through the three settings: Setting #1 (Low), Setting #2 (Medium), and Setting #3 (High). When you arrive at your desired setting simply wait and that setting will become active when the LED stops flashing. You can verify your setting by repeating Step 2.

FBX Setup

1. Make sure the Phantom is installed as described in “Installing the Phantom” previously. **Do not talk into the mic during this setup procedure. Setup Mode is for setup only. Turn down the gain for this mic and mute all other mics on your mixer.**

2. Using the Phantom Tool press and hold the FBX button for three seconds. The red LED will flash continuously when you have held it long enough. Let go of the button. The LED continues to flash.

3. You are now in Setup Mode. Slowly raise the gain for this mic until you hear the first feedback tone. The Phantom’s first FBX filter will engage and remove the tone. Raise the gain again until you hear another feedback tone. The Phantom’s second FBX filter will engage. Continue raising gain until the red LED turns green. This will automatically end Setup Mode, and the red LED will stop flashing.

4. Reduce the gain slightly and you are now in Ready Mode. The LED is green in this mode. You can now begin normal operation.

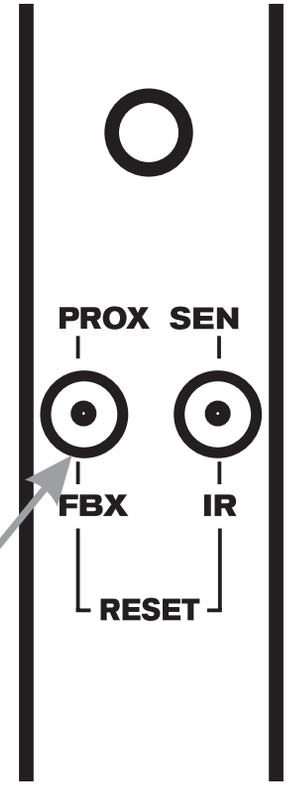
FBX Setup (continued)

5. You can manually exit Setup Mode at any time by pressing the FBX button once during the Setup procedure. The red LED will turn green to indicate you are in Ready Mode.

6. Following this procedure is highly recommended. It will give you more gain before feedback for this microphone and increase the distance you can stand from the mic and still be heard.

7. The FBX filters are all fixed filters - once Ready Mode is engaged these filters are fixed in their location, width, and depth. They are no longer adaptive, and there are no dynamic filters available with the Phantom. These are not necessary because your podium mic should not be moving during the program!

8. The Phantom will provide between two and four FBX filters depending on system acoustics.

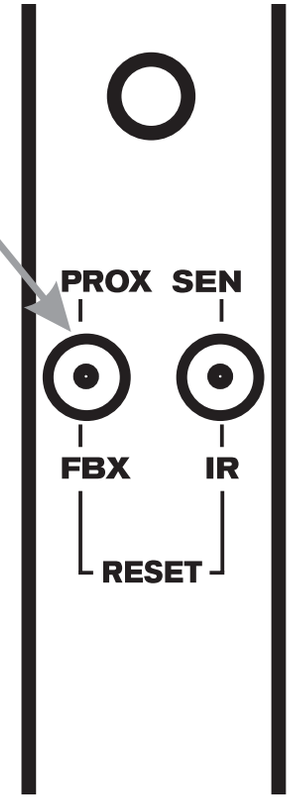


Proximity & Plosive Control Setup

1. Make sure the Phantom is installed as described in “Installing the Phantom” previously.

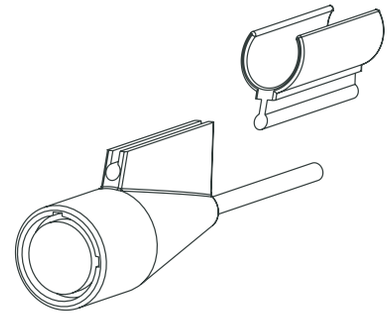
2. Using the Phantom Tool, press the **PROX** button momentarily and you will see the red LED flash. This indicates the current setting. Factory default setting is Setting #2, indicated by two quick flashes.

3. Press the **PROX** button again and you can cycle through the three threshold settings: Setting #1, Setting #2, and Setting #3. When you arrive at your desired setting simply wait and that setting will become active when the LED stops flashing. You can verify your setting by repeating Step 2.

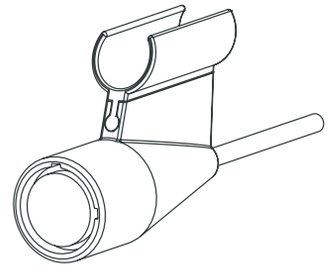


4. Choose Setting #3 for more control of the proximity effect and a further reduction of plosives in speech. Choose Setting #1 for less control of these effects.

Infrared (IR) Gate Setup



1. Connect the Sensor to one of the plastic clips that matches your gooseneck size. The clip slides on as shown at right. Mount that assembly to the gooseneck.



2. Plug the cable into the Phantom's jack and clip the cable neatly to the gooseneck using the clips shown in Figure 2 on page seven.

3. Once the sensor is plugged in the gate is activated. The sensor will "read" the infrared signature of anyone standing in front of the mic. As long as someone is within six feet of the mic, the mic will be active which is indicated by the illuminated green LED.

Continued on next page

IR Gate Setup (continued)

4. If the person using the mic walks more than six feet away from the mic, the mic will remain on for about 15 seconds, after which it will be muted, indicated by the LED turning off.

5. You can disable this Gate function by simply unplugging the sensor's jack from the Phantom. The LED will now be green. GP

6. You can also disable the IR Gate by removing the security cover and pushing the IR button for 3 seconds. The red LED will flash two times to indicate "disabled" and one time to indicate "enabled."

7. You can also re-enable the IR Gate by unplugging and replugging the sensor while the mic is turned on (green LED lit). This will defeat any setting you made using the IR button. GP

8. NOTE: The mic stays on continuously when the IR Gate is disabled.

GP+HH Tips and Troubleshooting

1. **Reset**: If for any reason you need to return the Phantom to the factory default settings, use the Phantom tool and push both buttons simultaneously for 3 seconds. Be careful - this also clears the FBX filters.

2. **Distortion:** If you hear any distortion try lowering the Phantom's Sensitivity (SEN) setting (#1 is the lowest). You can also try lowering the Proximity setting (PROX) to the lowest setting (#1 is the lowest).

3. **IR Sensor installation:** If you plug in the sensor after the Phantom is installed and powered up, the sensor will not function (the mic is always on) for about 18 seconds. If you plug in the sensor first, then power the Phantom, the sensor works immediately.

4. **The FBX may only set 2 filters**. This is normal. The Phantom will provide between two and four FBX filters depending on system acoustics.

5. **Green LED cycles on and off**. This indicates a problem with the phantom power source. The level may be too low, or there may be a problem with your cable.

Microphone Sensitivity Charts (see instructions on page 15)

Audio-Technica

Model	*Type*	*Sensitivity (dB)*	*Voltage (V)*	*Current (mA)*	***SEN** Setting*
AT808G	dynamic	-60	N/A	N/A	3
ATR3M	dynamic	-55	N/A	N/A	3
ES905/C	electret	-40	11-52V	4mA	2
ES905/H	electret	-40	11-52V	4mA	2
ES905/ML	electret	-35	11-52V	4mA	1
ES915/C	electret	-40	11-52V	4mA	2
ES915/H	electret	-40	11-52V	4mA	2
ES915/ML	electret	-35	11-52V	4mA	1
ES917S/C	electret	-40	11-52V	4mA	2
ES917S/H	electret	-40	11-52V	4mA	2
ES917S/ML	electret	-35	11-52V	4mA	1
ES935/C	electret	-40	11-52V	4mA	2
ES935/H	electret	-40	11-52V	4mA	2
ES935/ML	electret	-35	11-52V	4mA	1
ES935S/C	electret	-40	11-52V	4mA	2
ES935S/H	electret	-40	11-52V	4mA	2
ES935S/ML	electret	-35	11-52V	4mA	1
ES991	2x electret	-41	11-52V	3mA	2
ES993	2x electret	-41	11-52V	3mA	2
ES995	2x electret	-41	11-52V	3mA	2
PRO 47T	electret	-37	9-52V	2mA	2
PRO 47TL	electret	-37	9-52V	2mA	2
PRO 49Q	electret	-37	9-52V	2mA	2
U857AL	electret	-42	11-52V	2mA	2
U857AU	electret	-38	11-52V	2mA	2
U857Q	electret	-39	11-52V	2mA	2
U857QL	electret	-39	11-52V	2mA	2
U857QLU	electret	-35	11-52V	2mA	1
U857QU	electret	-35	11-52V	2mA	1
U857R	electret	-39	11-52V	2mA	2
U857RL	electret	-39	11-52V	2mA	2
U857RLU	electret	-35	11-52V	2mA	1
U857RU	electret	-35	11-52V	2mA	1
U859QL	electret	-43	11-52V	2mA	2

Beyer

Model	*Type*	*Sensitivity (dB)*	*Voltage (V)*	*Current (mA)*	***SEN** Setting*
SHM 201 A	electret	-40	11-52V	3.5mA	2
SHM 201 A ZSH	electret	-40	11-52V	3.5mA	2
SHM 201 AS	electret	-40	11-52V	3.5mA	2
SHM 201 AS ZSH	electret	-40	11-52V	3.5mA	2
SHM 203 A	electret	-40	11-52V	3.5mA	2
SHM 203 AS	electret	-40	11-52V	3.5mA	2
SHM 203 F	electret	-40	11-52V	3.5mA	2
SHM 203 G	electret	-40	11-52V	3.5mA	2
SHM 204 A	electret	-40	11-52V	3.5mA	2
SHM 204 AS	electret	-40	11-52V	3.5mA	2
SHM 204 F	electret	-40	11-52V	3.5mA	2
SHM 204 G	electret	-40	11-52V	3.5mA	2
SHM 204 XD	electret	-40	11-52V	3.5mA	2
SHM 205 A	electret	-40	11-52V	3.5mA	2
SHM 205 AD	electret	-40	11-52V	3.5mA	2
SHM 205 AS	electret	-40	11-52V	3.5mA	2
SHM 205 F	electret	-40	11-52V	3.5mA	2
SHM 205 G	electret	-40	11-52V	3.5mA	2
SHM 213 A	electret	-40	11-52V	3.5mA	2
SHM 214 A	electret	-38	11-52V	3.5mA	2
SHM 214 SI	electret	-38	11-52V	3.5mA	2
SHM 215 A	electret	-38	11-52V	3.5mA	2
SHM 215 SI	electret	-38	11-52V	3.5mA	2
SHM 22 PF SW	electret	-36	8-52V	3.4mA	1
SHM 22 PM SW	electret	-36	8-52V	3.4mA	1
SHM 424-11/300-3/8-SW	dynamic	-58	8-52V	3.4mA	3
SHM 424-11/300-N(CM)-SW	dynamic	-58	8-52V	3.4mA	3
SHM 803 A	electret	-36	9-52V	3mA	1
SHM 803 AS	electret	-36	9-52V	3mA	1
SHM 803 F	electret	-36	9-52V	3mA	1
SHM 805 A	electret	-36	9-52V	3mA	1
SHM 805 AS	electret	-36	9-52V	3mA	1
SHM 805 F	electret	-36	9-52V	3mA	1
SHM 930	condenser	-30	11-52V	4.6mA	1

Sennheiser

Model	*Type*	*Sensitivity (dB)*	*Voltage (V)*	*Current (mA)*	***SEN** Setting*
503BG	dynamic	-41	N/A	N/A	2
EZG	electret	-46	11-52V	2mA	3
MX412 C	electret	-35	11-52V	2mA	1
MX412 S	electret	-33	11-52V	2mA	1
MX412 O	electret	-27	11-52V	2mA	1
MX418 C	electret	-35	11-52V	2mA	1
MX418 S	electret	-33	11-52V	2mA	1
MX418 O	electret	-27	11-52V	2mA	1

Shure

Model	*Type*	*Sensitivity (dB)*	*Voltage (V)*	*Current (mA)*	***SEN** Setting*
503BG	dynamic	-41	N/A	N/A	2
EZG	electret	-46	11-52V	2mA	3
MX412 C	electret	-35	11-52V	2mA	1
MX412 S	electret	-33	11-52V	2mA	1
MX412 O	electret	-27	11-52V	2mA	1
MX418 C	electret	-35	11-52V	2mA	1
MX418 S	electret	-33	11-52V	2mA	1
MX418 O	electret	-27	11-52V	2mA	1

Check the manufacturer's web site for the most current sensitivity specifications for your microphone; set your Phantom's SEN setting based on the examples in the charts above.

Use this space to record information about your microphone

Make: _____

Model: _____

Phantom SEN Setting: _____

Specifications

- Minimum phantom power requirement: 17V @ 10mA.
- Supplies 17V and up to 4 mA of phantom power to connected mic
- Frequency Response: +/-1.5dB (50Hz to 20kHz)
- Dynamic Range: 94dB typ (unweighted)
- Distortion: < 0.5% @ 1kHz
- Propagation Delay: 0.870ms
- FBX Filters: 2-4 Fixed Filters
- Audio connector: 3-pin XLR
- Input Resistance: 20k Ohm
- IR Sensor Detection Range Maximum: 6 feet
- Dimensions: 2.5" x 1.6" x 1.2" (6.4 cm x 4 cm x 3 cm)
- PMR-GP1 includes Phantom, IR sensor assembly and assorted clips for mounting on gooseneck or under table
- PMR-HH1 includes Phantom with built-in IR sensor

ONE-YEAR LIMITED WARRANTY:

THIS LIMITED WARRANTY VALID ONLY WHEN PURCHASED AND REGISTERED IN THE UNITED STATES OR CANADA. ALL EXPORTED PRODUCTS ARE SUBJECT TO WARRANTY AND SERVICES TO BE SPECIFIED AND PROVIDED BY THE AUTHORIZED DISTRIBUTOR FOR EACH COUNTRY.

ONE-YEAR LIMITED WARRANTY

SABINE, INC. ("SABINE") warrants this product to be free from defects in material and workmanship for a period of one (1) year from date of purchase PROVIDED, however, that this limited warranty is extended only to the original retail purchaser and is subject to the conditions, exclusions and limitations hereinafter set forth:

CONDITIONS, EXCLUSIONS AND LIMITATIONS OF LIMITED WARRANTIES

These limited warranties shall be void and of no effect if:

a. The first purchase of the product is for the purpose of resale; or

b. The original retail purchase is not made from an AUTHORIZED SABINE DEALER; or

c. The product has been damaged by accident or unreasonable use, neglect, improper service or maintenance, or other causes not arising out of defects in material or workmanship; or

d. The serial number affixed to the product is altered, defaced or removed; or

e. The power supply grounding pin is removed or otherwise defeated. In the event of a defect in material and/or workmanship covered by this limited warranty, Sabine will repair the defect in material or workmanship or replace the product, at Sabine's option; and provided, however, that, in any case, all costs of shipping, if necessary, are paid by you, the purchaser.

THE WARRANTY REGISTRATION CARD SHOULD BE ACCURATELY COMPLETED, MAILED TO AND RECEIVED BY SABINE WITHIN FOURTEEN (14) DAYS FROM THE DATE OF YOUR PURCHASE.

In order to obtain service under these warranties, you must:

a. Bring the defective item to any AUTHORIZED SABINE DEALER and present therewith the ORIGINAL PROOF OF PURCHASE supplied to you by the AUTHORIZED SABINE DEALER in connection with your purchase from him of this product. If the DEALER is unable to provide the necessary warranty service, you will be directed to the nearest other SABINE AUTHORIZED DEALER which can provide such service. **OR**

b. Call Sabine for a RETURN AUTHORIZATION NUMBER and ship the defective item, prepaid, to:

SABINE, INC. 13301 HIGHWAY 441
ALACHUA, FL 32615-8544 USA

including therewith a complete, detailed description of the problem, together with a legible copy of the original PROOF OF PURCHASE and a complete return address. Upon Sabine's receipt of these items:

If the defect is remedial under the limited warranties and the other terms and conditions ex-

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